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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,224	07/18/2005	Steen Brabrand Rasmussen	66722-057-7	3799
25269 7590 12/19/2006 DYKEMA GOSSETT PLLC FRANKLIN SQUARE, THIRD FLOOR WEST 1300 I STREET, NW WASHINGTON, DC 20005			EXAMINER BUDD, MARK OSBORNE	
			ART UNIT	PAPER NUMBER
			2834	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/19/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/501,224	Applicant(s) RASMUSSEN, STEEN BRABRAND	
	Examiner Mark Budd	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7-12-04</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 2834

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3-5 are rejected under 35 USC 103 (a) as being unpatentable over Heller in view of O'Neill. Heller, in figure 7 (note also column 4, line 19-column 5, line 43) teaches a device for acoustic measurement in an ear canal, comprising a probe for insertion into an ear canal in a sealing manner and having an opening for transport of air in two were out of the ear canal, a pump for providing a pressure difference in relation to a surrounding atmospheric pressure a pump comprising a housing with openings for inlet/or outlet and what opening in the pump is operatively connected to the opening in the probe. Heller provides only a generic miniature motor #56 to drive the pump. O'Neill teaches that piezoelectric microbe pumps using an expanding stack of piezoelectric elements to drive the piston are well known. The advantage of using a piezoelectric pump motor are: small size, low power requirements, silent operation, light weight and they are immune to electromagnetic interference. Thus, for at least these reasons, it would have been obvious to what of ordinary skill in the art to use a piezoelectric pump in Heller.

Claim 2 is rejected under 35 USC 103 (a) as unpatentable over Heller in view of O'Neill as described above and further in view of Dante. This claim adds that the valves in the pump are made from piezoelectric material. O'Neill's pump appears to use standard mechanical check valves. Dante (figures 5 and 6) teaches using piezoelectric materials as the check valves #220, #222 in a piezoelectricly driven pump. The advantage of a piezoelectric valve is that it can be opened and closed electronically rather than merely reacting to pressure differential. Also, it eliminates the need for precisely manufactured valve seats and/or mechanical hinges. Thus, for at least these reasons it would have been obvious to one of ordinary skill in the art to substitute piezoelectric valves for the mechanical valves used by O'Neill.

Claims 6 and 7 are rejected under 35 USC 103 (a) as being unpatentable over O'Neal in view of Dante. As explained in the preceding paragraph, O'Neill teaches a piezoelectric pump (figure 1) having a housing with at inlet opening at an outlet opening and a piston element having piezoelectric properties. Mechanical valve elements are provided. Dante teaches using piezoelectric valves in place of mechanical valve's, and for the reasons noted in the preceding paragraph it would have been obvious to one of

Art Unit: 2834


ordinary skill in the art to replace the mechanical valves of O'Neill with the piezoelectric valves of Dante.

Further cited of interest are Smiley and Seto.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Budd whose telephone number is 571-272-2019. The examiner can normally be reached on Monday-Thursday from 6 a.m. to 4 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ddarren Schuberg, can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Mark Budd
Primary Examiner
Art Unit 2834